# Fish & Wildlife Department Performance Based Budget - FY2017

## Fish and Wildlife Management in the 21st Century: Conservation in a Time of Change

Those of us who call Vermont home know our state is a gem. This is not only because of the beautiful landscape that underpins the Vermont identity, but also because of our citizens' unique attitudes toward conservation. The small villages, undeveloped landscapes, clear streams, abundant fish and wildlife, and the beauty of Vermont contribute to our quality of life. This rich natural heritage belongs to all Vermonters. Although the Fish & Wildlife Department has been entrusted to steward these valuable resources for current and future generations, the long-term responsibility for conservation will also ultimately rest with the citizens of the state.

To that end, the department recently measured the public's support for our mission: "The Conservation of Fish, Wildlife, and Plants for All Vermonters." Last spring, we contracted with a nationally respected polling firm, Responsive Management, to survey more than 1,000 Vermonters. We asked them to gauge public opinions relative to the department, fish and wildlife conservation, and land use change. Those surveyed included 800 members of the general public, 200 hunters, and 200 anglers. The results were startling…Vermonters truly are invested in the land and waters of the state, with more than 97 percent saying that it is important to protect and preserve ecologically important habitats. Our quality of life continues to be directly attributed to conserving nature and the working landscape. The lead investigator also confirmed what we have always suspected: Vermont is one of a kind. In his words: "Vermont residents are different from other people around the country. They are committed to conservation."

We are, of course, gratified by these results. However, we also recognize that the quality of life we all value is fragile and can be undermined by unfettered growth, forest conversion, and habitat fragmentation. Vermont could easily become "Anywhere USA." Preserving our heritage—the forests, fields, streams and fish and wildlife—will take continued public commitment, thoughtful planning, judicious regulation, and statutory laws that consider the unintended downsides that come from growth, as well as the benefits. We will need to be vigilant to continue the conservation gains we have achieved and to minimize and moderate the impacts from threats such as climate change and habitat loss.

As you read through this report, along with a review of our performance this year, you will see examples where the department has achieved a continued measure of success towards our strategic goals. You will also note that these efforts have become more complex in an era of change, with an aging population, growing development pressures, and limited statutory authority. As evidenced by the survey, however, Vermonters continue to strongly support the work of the department particularly in such areas as endangered species protection, and land conservation. As pressures on species and habitats increase, this support will be critical to maintaining the department's relevancy and our role in the protection of fish, wildlife, and the habitats on which they depend. Our citizens clearly recognize that the natural infrastructure of water, soils, forests, and wildlife are foundational to a healthy economy and the quality of life that most Vermonters value. Our hope is to maintain this critical connection to the land that inspires our residents to support our mission. We hope you will enjoy reading this report and witnessing the good work the department has accomplished to meet Vermonters' interests in 2015, along with learning about our goals for the year ahead and how we can work together to achieve them.


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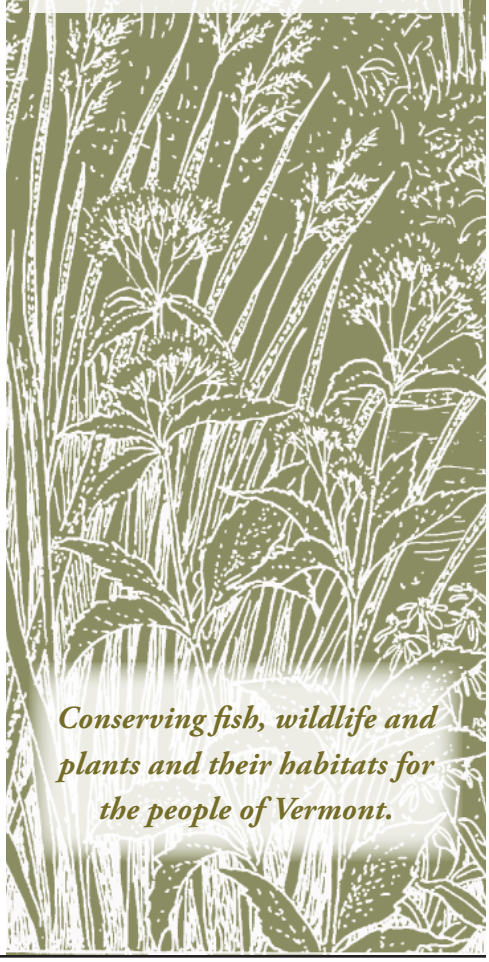


*Conserving fish, wildlife and plants and their habitats for the people of Vermont.*

# Department Overview

# Administration

The Administration Division provides policy, legal, personnel, and financial leadership for the department. It is responsible for the sale of all hunting and fishing licenses and more than 15 other permit types related to resource protection.

- Awards approximately $1 million dollars of "grants out" to municipalities, conservation organizations and colleges and universities.
- Promulgates rules and regulations via Commissioner's Rule and Fish & Wildlife Board rules, works with the Secretary of the Agency of Natural Resources on endangered species listings, and with the legislature on fish and wildlife-related legislation.
- Manages $8+ million in federal grant dollars, ensuring funds are spent appropriately and all reporting requirements are met.

# Law Enforcement

The Law Enforcement Division protects Vermont's fish and wildlife from poaching and illegal capture and trade, an essential component of conservation and management, in addition to monitoring more than 150,000 licensed hunters, anglers, and trappers. They also perform duties outside of conservation such as search and rescue operations, assistance to other law enforcement agencies, and boating, snowmobile, and ATV operation enforcement.

- Answers approximately 9,000 complaints a year related to fish and wildlife violations and public service requests.
- Plays an essential role in supporting all other divisions of the department by participating in education programs, collecting biological data, and stocking fish.
- Responds to human/wildlife conflicts, animal damage intervention, removal of big game animals from roadsides, and rabid animal calls all to protect human health and safety.

# Wildlife

The Wildlife Division provides the science and action to protect and manage all wildlife, plants, and their habitats throughout Vermont. Division staff work on three main areas – management of hunted or trapped species; public and private lands habitat conservation; and protecting rare, threatened, and endangered species.

- Conducts research and management actions in support of species and habitat conservation.
- Participates in the protection of critical wildlife habitat through regulatory processes such as Act 250 and Act 248 (Public Service Board).
- Participates in land acquisition and management of 135,000 acres on the department's 89 Wildlife Management Areas (WMAs).

# Outreach and Education

The Outreach and Education Division provides quality information and education about Vermont's fish and wildlife, facilitating the public's greater understanding and safe enjoyment of these resources.

- Provides conservation education to 900 children per year through two Green Mountain Conservation Camps, including a week for children of military families.
- Certifies nearly 5,000 Vermonters a year through volunteer-taught hunter safety courses, and teaches nearly 6,000 students to fish through the Let's Go Fishing Program.
- Communicates to the public about conservation through news releases, PSAs, Facebook, a website, and "Wildlife Watch" on WCAX that reaches 60,000 Vermonter weekly.

# Fisheries

The Fish Division is composed of the Fish Management Section, the Fish Culture Section, and the fishing access areas program. The Fish Management Section conserves and restores the fish and fish habitats in Vermont, while the Fish Culture Section stocks approximately 2 million fish annually in public waters for recreational angling and fish restoration. The economic impact of sport fishing in Vermont was estimated to be $147.1 million in retail sales, providing 2,420 jobs and $16.0 million in state and local tax revenues.

- Conserves and restores fish habitat including restoring stream buffers, removing barriers to fish passage from dams and culverts, and protecting water quality.
- Provides regulated and sustainable fishing opportunities, including maintaining 180 Fishing Access Areas statewide.
- Restores populations of fish such as muskie, lake sturgeon and salmon and controls the spread of aquatic nuisance species.

The direct boost from hatcheries alone was conservatively estimated at $31.6 million annually. With an overall cost of approximately $3.3 million in 2014, fish culture program yields an almost 9:1 return on investment, a true bargain given that almost half of the costs of the hatchery program are covered by federal funds.

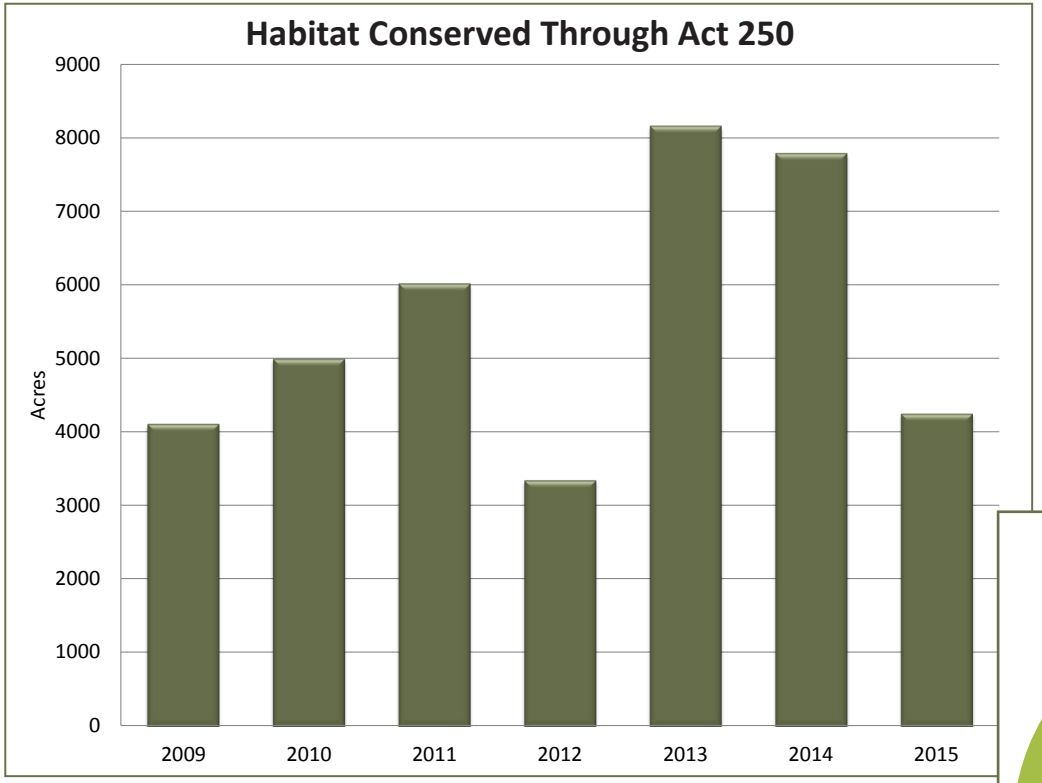
- The fish health program works statewide to control the spread of fish diseases and the introduction of exotic fish species.

# Measuring Success

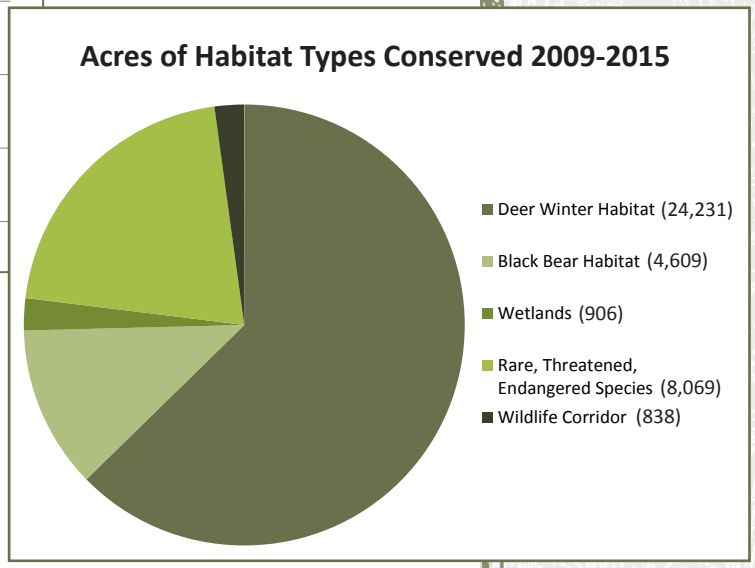
## Performance Based Budgeting

VERMONT FISH & WILDLIFE

# Habitat Conservation Through Act 250




**95-97%**
**of development projects are NOT regulated by Act 250**




## Act 250 works, but is only a small part of the solution.

The department plays a critical role in the protection of ecologically important habitats through the Act 250 process. In 2015, this included 271 projects reviewed and 4,248 acres of habitat protected.

However, only 3-5% of development projects in Vermont are regulated by Act 250. As a result, Vermont loses roughly 6,500 acres of undeveloped land every year, an area roughly the size of Montpelier.

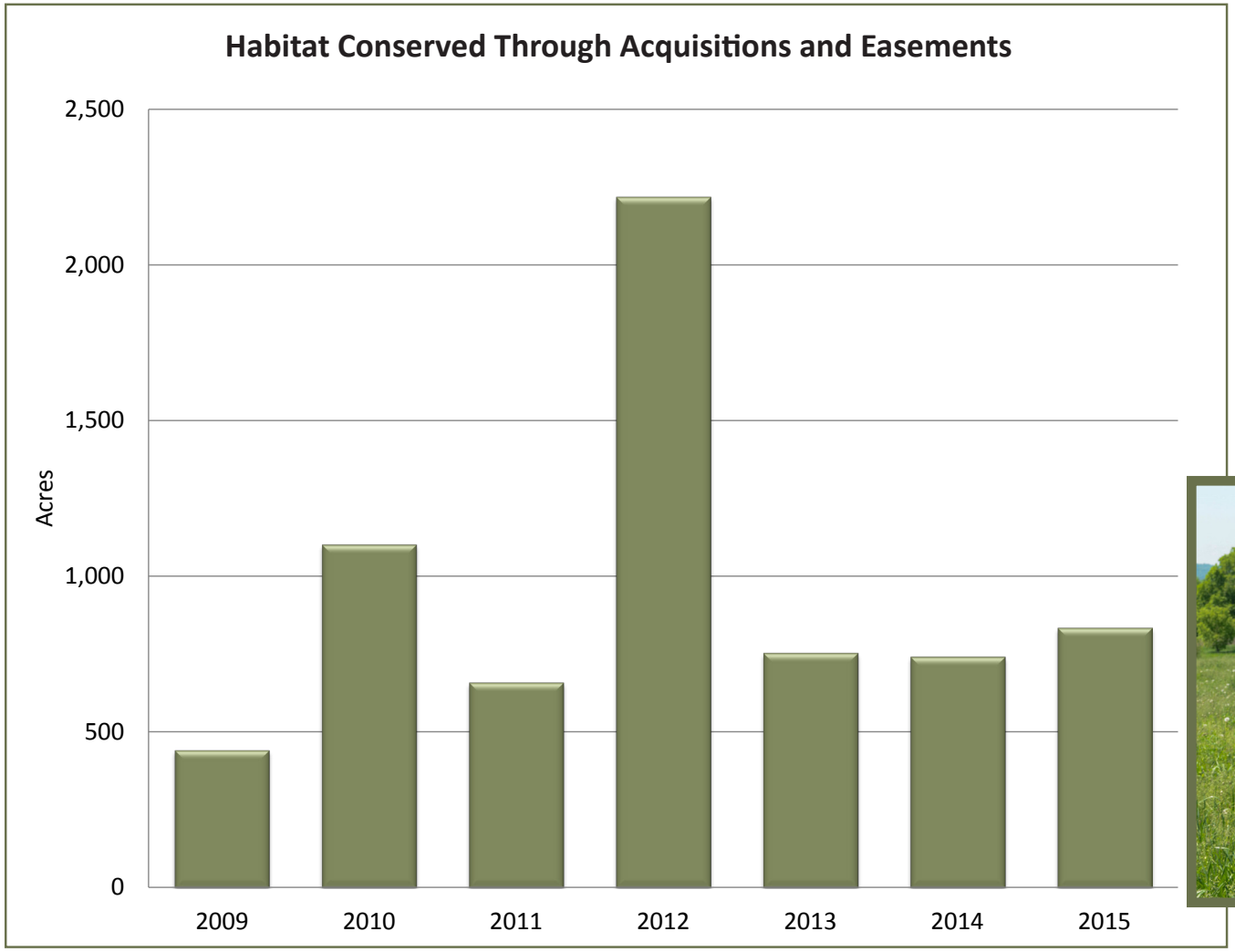
As part of its strategic plan, the department will be working to pursue other solutions that deter habitat loss such as working with town and regional planning commissions and private landowners to minimize habitat loss and fragmentation.

## What Vermonters Think

I believe land development should be restricted to protect fish and wildlife. **83% YES**

Source: Responsive Management. *Opinions on Fish, Wildlife, and Land Use Among Vermont Residents, Hunters, and Anglers.* Harrisonburg: Responsive Management, 2015.

# Land Acquisition and Conservation Easements




## The department works to strategically target critical habitats for conservation.

Working with many partners, the department is conserving important fish and wildlife habitat through acquisitions, easements, and management agreements. In 2015, the department conserved 835 acres through acquisitions. These lands are open for hunting, fishing, trapping, wildlife watching and connecting with nature.

*The department recently doubled the size of the Lemon Fair WMA, providing additional space for grassland birds, waterfowl and deer to roam.*

## What Vermonters Think

I support VT Fish & Wildlife Department protecting important wildlife habitat by purchasing land. **83% YES**

Source: Responsive Management, 2015.

PERFORMANCE MEASURE: An increase in the cumulative number of acres of high-value habitats and natural communities conserved through acquisition or easements.

# Habitat Assistance for Private Landowners

*A department biologist worked with this landowner in Chittenden County to improve habitat for golden-winged warblers.*

*A Franklin County landowner harvested this 10-point buck under the same apple trees that were released under a habitat management plan developed through the EQIP program.*

### Wildlife Habitat Improved on Private Lands Through Fish & Wildlife Assistance and EQUIP

- Invasive Species Controlled - 557 Acres
- Delayed Mowing - 296 Acres
- Weed Control - 256 Acres
- Forest Stand Improvement - 93 Acres
- Early Successional Habitat - 80 Acres
- Trees and Shrubs Established - 48 Acres
- Young Forest Habitat - 34 Acres

## What Vermonters Think

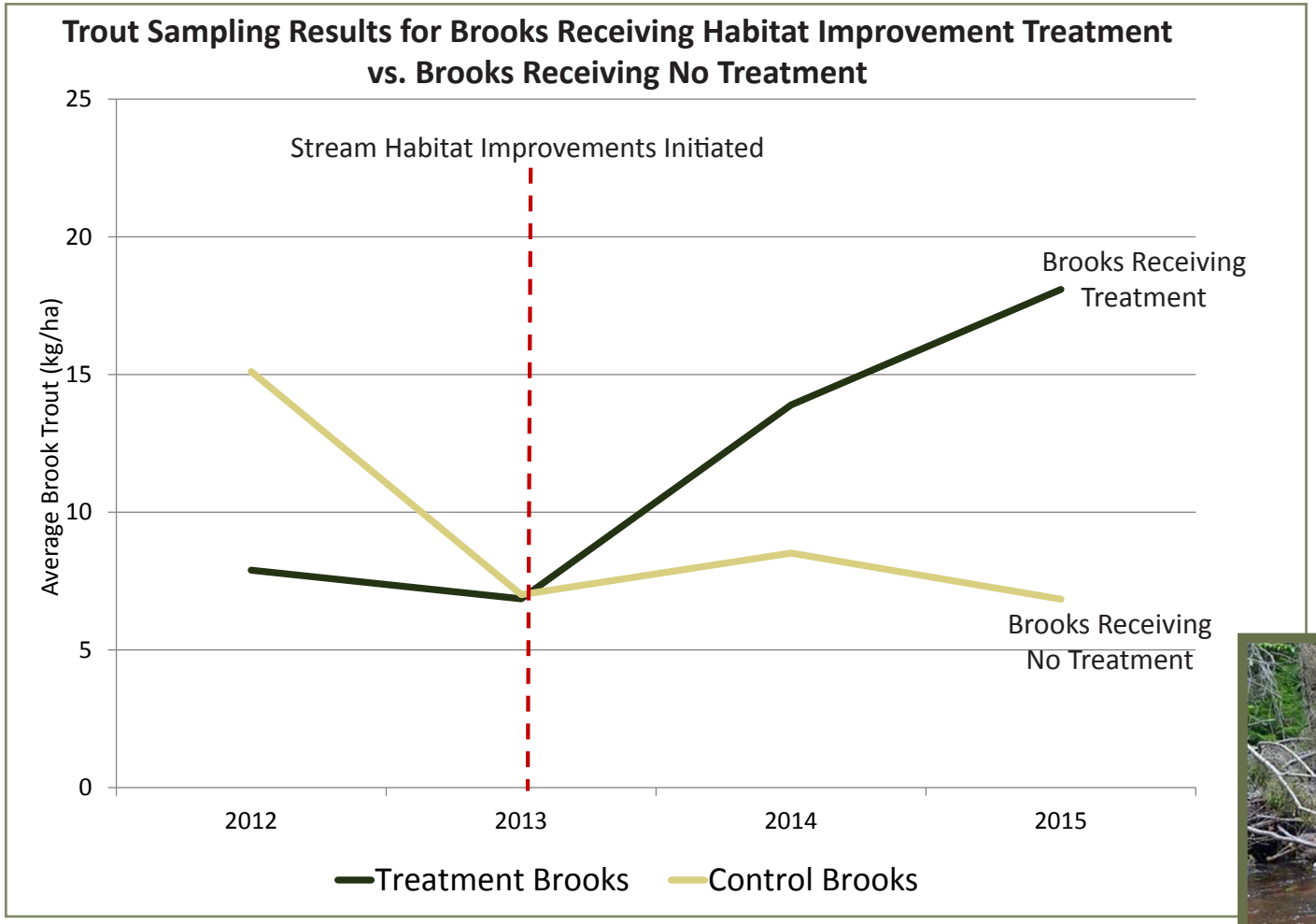
I support the department providing technical assistance and guidance to landowners and towns for managing land to protect fish and wildlife. **95% YES**

Source: Responsive Management, 2015.

**Working with cooperative landowners to improve wildlife habitat is crucial because more than 80% of lands in Vermont are in private ownership.**

In FY2015, department staff helped 53 landowners manage their land for wildlife through the federal Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP), affecting thousands of acres statewide. Staff also gave workshops to Vermont Woodlands Association and Vermont Coverts groups, and assisted residents with bats in their homes, beavers flooding their roads and driveways, and many other human-wildlife conflicts.

# Trout Habitat Management




Fisheries biologists strategically added woody debris to brooks in the Nulhegan Basin and then sampled them for fish. The brooks with improved fish habitat contained nearly double the number of brook trout than nearby streams that had not been improved.

## What Vermonters Think

Protecting and preserving critical habitats is important to me. **97% YES**

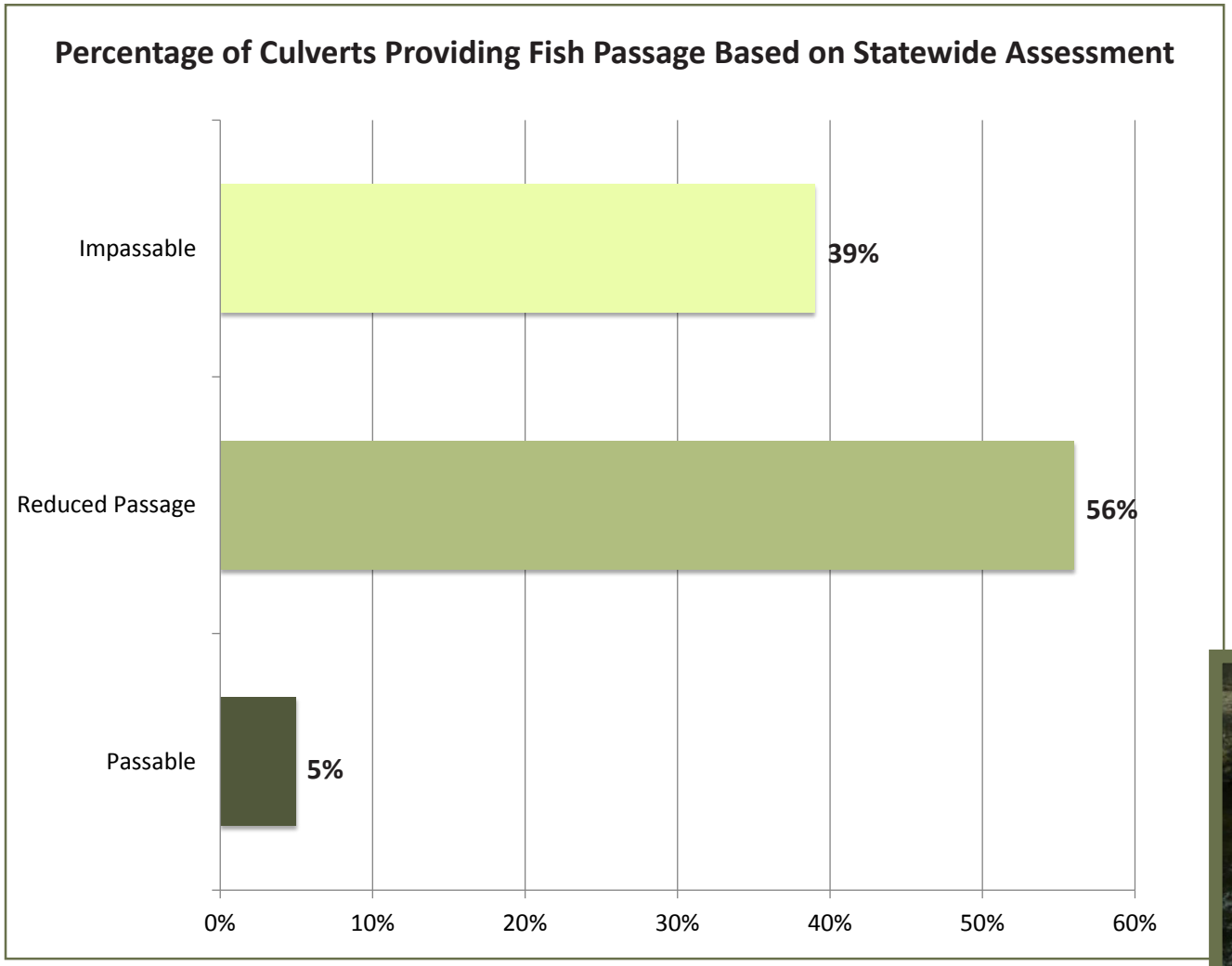
Source: Responsive Management, 2015.

**The department is working to provide world-class trout fishing opportunities in Vermont by restoring and maintaining a self-sustaining wild trout fishery.**

Management of wild trout focuses on protecting and enhancing water quality and aquatic habitats. Fisheries staff expend thousands of hours reviewing project to protect aquatic habitat, as well as work with partners identifying, implementing and evaluating habitat enhancement projects.

*Fisheries biologists work with Trout Unlimited and other partners to improve trout habitat on the Nulhegan River*

# Fish Passage on Dams and Culverts




## Fish survival depends on their ability to move safely upstream and downstream.

We are partnering with VTrans, as well as municipalities, angler and watershed groups, and The Nature Conservancy to increase the number of culverts and dams that allow fish and other wildlife to pass safely. Creating culverts that allow for fish and aquatic organisms to pass safely and connect their habitats has been a growing area of concern for the department. Given the increase in extreme storms and aging infrastructure, Vermont will likely see more need for this important work

*Improvements to fish passage also benefit wildlife, allowing them to pass safely under roads.*

## What Vermonters Think

I believe that habitat fragmentation is a problem in Vermont. **85% YES**

Source: Responsive Management, 2015.

PERFORMANCE MEASURE: Increase the number of culverts and dams that are passable to fish and other aquatic organisms and improve the communication between the Fish & Wildlife Department and road managers in addressing these issues.

# Restoration of Sturgeon and Other Fish Species

The Vermont Fish & Wildlife Department recently stepped up its efforts to restore state endangered lake sturgeon populations to Lake Champlain and its tributaries. Sturgeon declined due to dams, pollution and commercial fishing in the early 1900s and have been rarely seen in Vermont in the last half century. The department recently produced a new sturgeon recover plan.

*Fisheries biologists recently captured and tagged 10 sturgeon with transmitters to track their movements.*

## The department works to conserve the diversity of species that Vermonters enjoy.

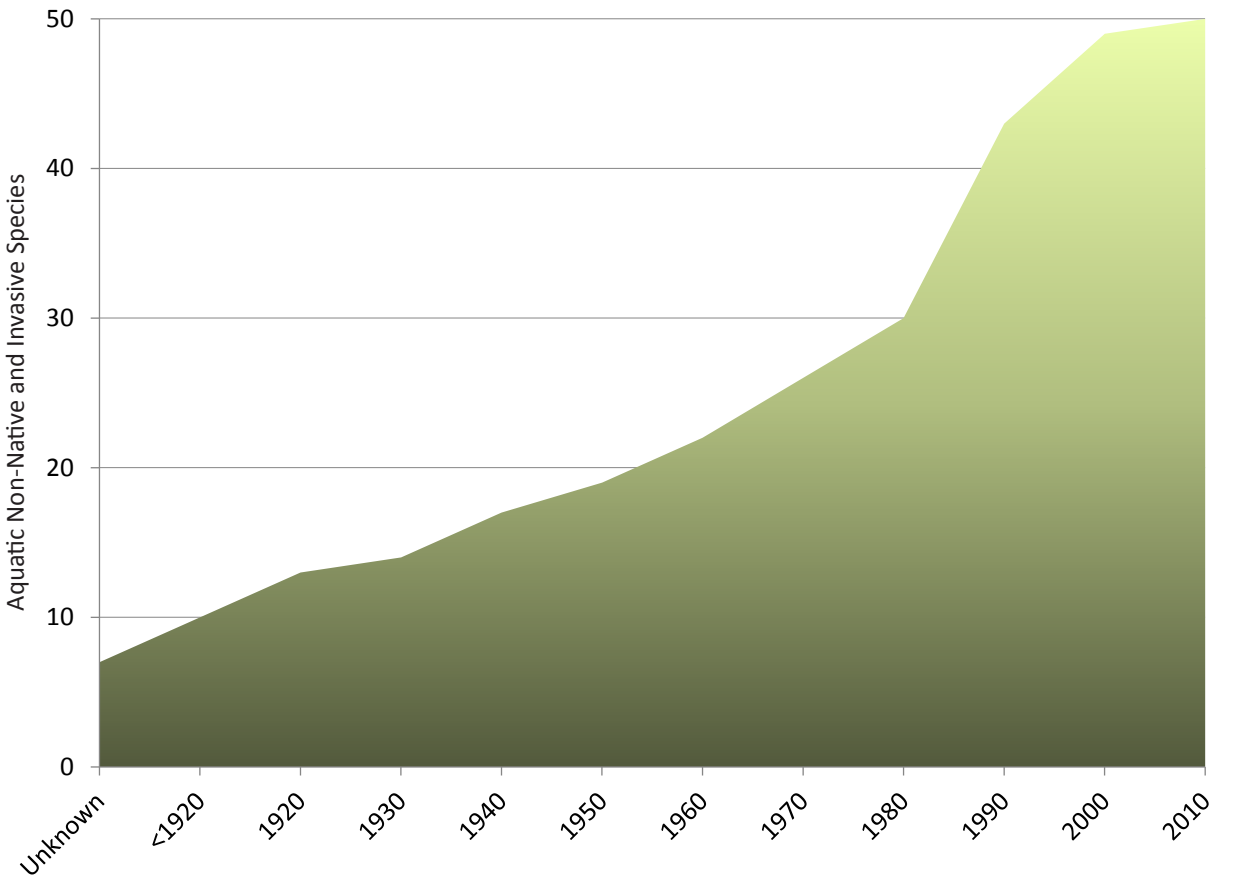
This includes well known species like lake trout, salmon and sturgeon as well as muskies and sauger in Lake Champlain. It also includes lesser known species such as dwarf wedgemussel, which filters water in the Connecticut River.

## What Vermonters Think

Threatened and endangered species must be protected. **97% YES**

Source: Responsive Management, 2015.

# Aquatic Invasive Species




## Invasive species threaten our native wildlife and take time and money to prevent and control.

The department works with other government agencies and nonprofit partners to prevent the spread of invasive species and to contain them where they currently exist.

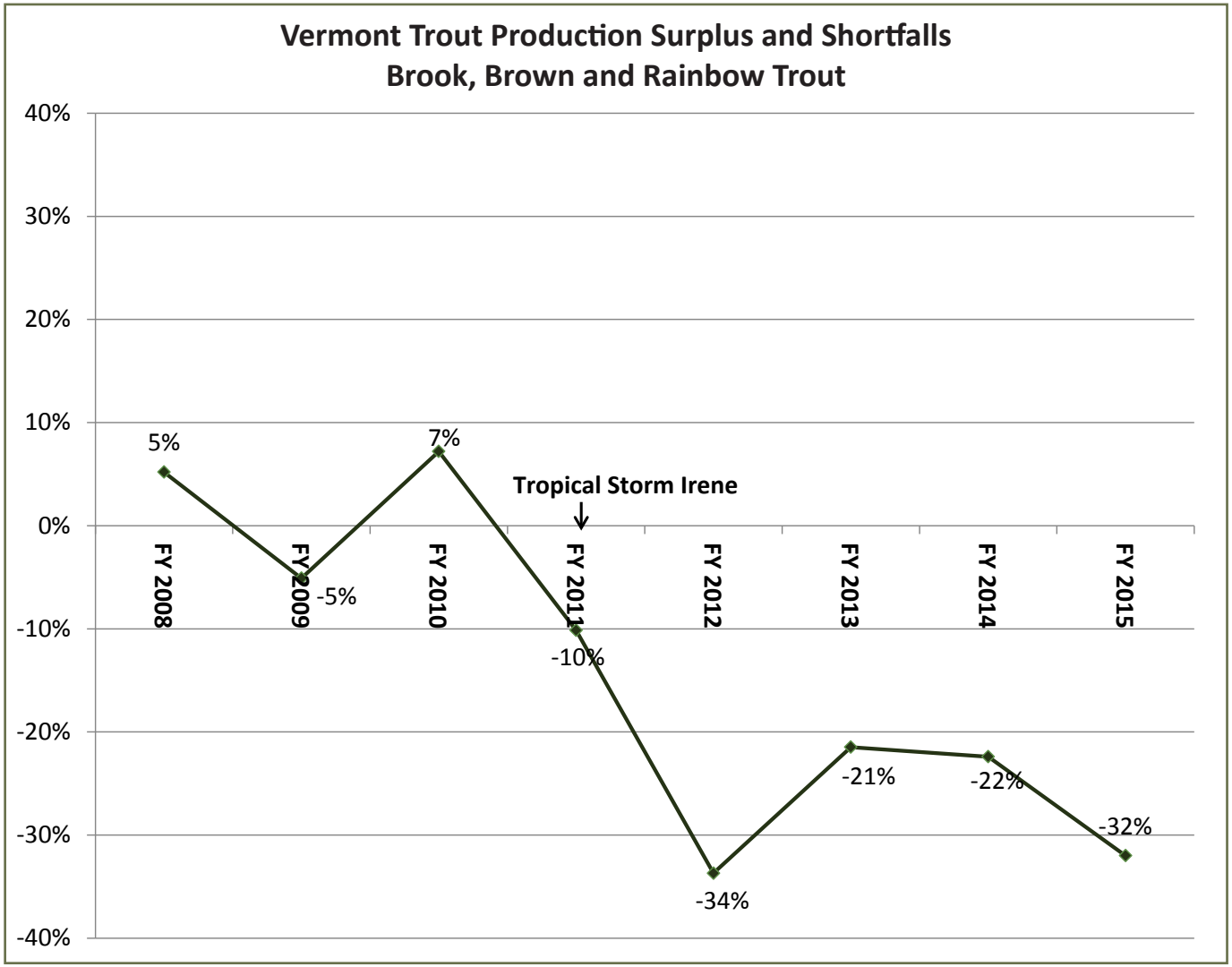
*The spiny water flea represents the 50th aquatic nuisance species to arrive in Lake Champlain. Others include zebra mussels, alewives, Eurasian milfoil, and white perch.*

## What Vermonters Think

Invasive species are the greatest threat currently facing Vermont's ecosystem. **71% YES**

Source: Responsive Management, 2015.

# Trout Production Shortfalls Following Hurricane Irene




## Damage to the Roxbury Fish Hatchery due to Tropical Storm Irene has left a 25% shortage of adult trout annually.

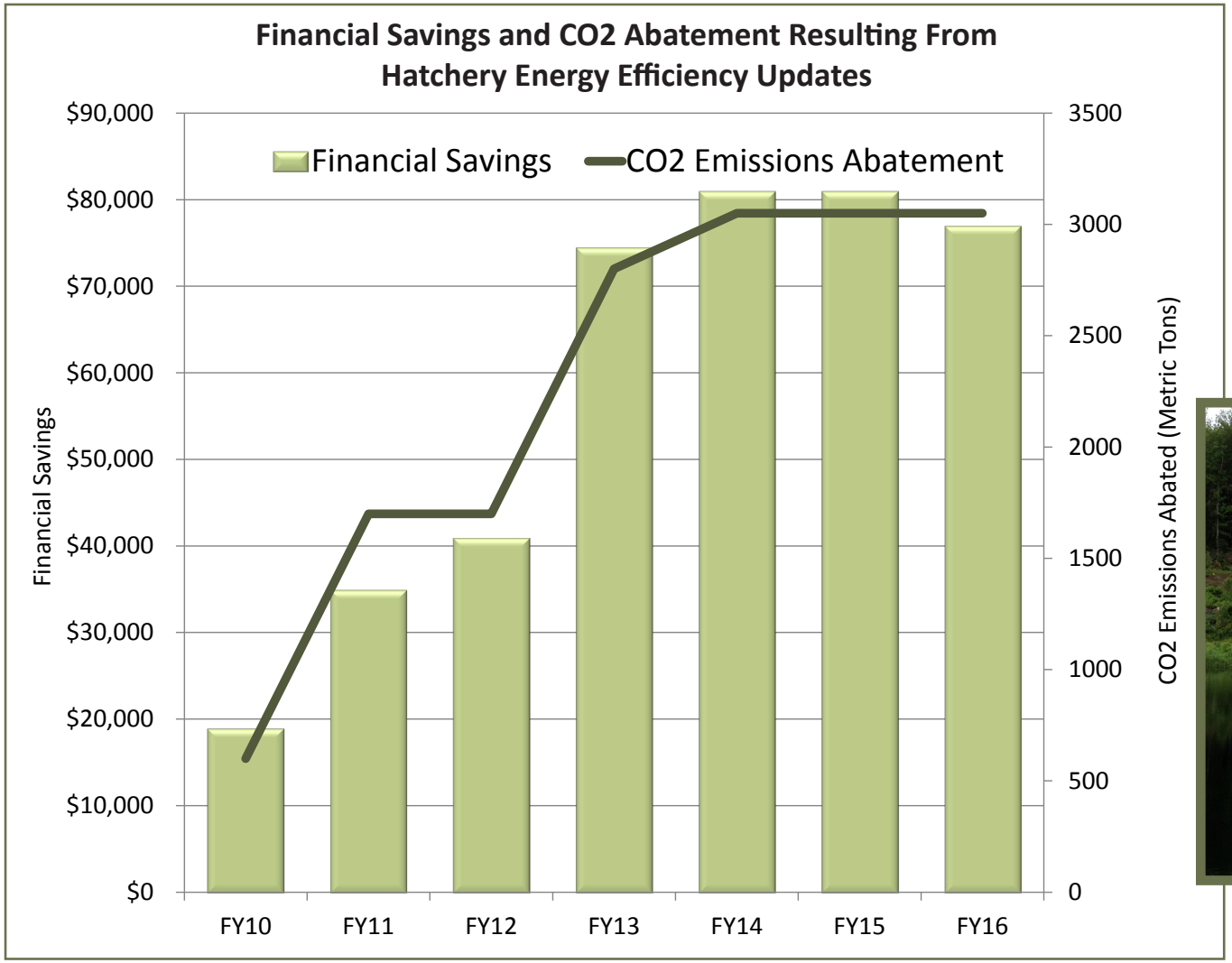
While other hatcheries are currently working above their capacity in an attempt to make up for the deficit, this is not a long-term solution to meet fish stocking demands. Bennington Hatchery is now rearing a record number of trout but this effort taxes this aging facility beyond its limits. Only restoring Roxbury will allow the state to return to its historic stocking levels.

## What Vermonters Think

It is very important that people have the opportunity to hunt, fish and view wildlife. **91% YES**

Source: Responsive Management, 2015.

# Energy Efficiency Updates at Fish Hatcheries




**The department is a conscientious steward of energy resources and constantly works to increase its efficiency and reduce costs.**

Recent energy upgrades to Vermont's hatcheries save enough energy annually to power the entire town of Grand Isle for a year.

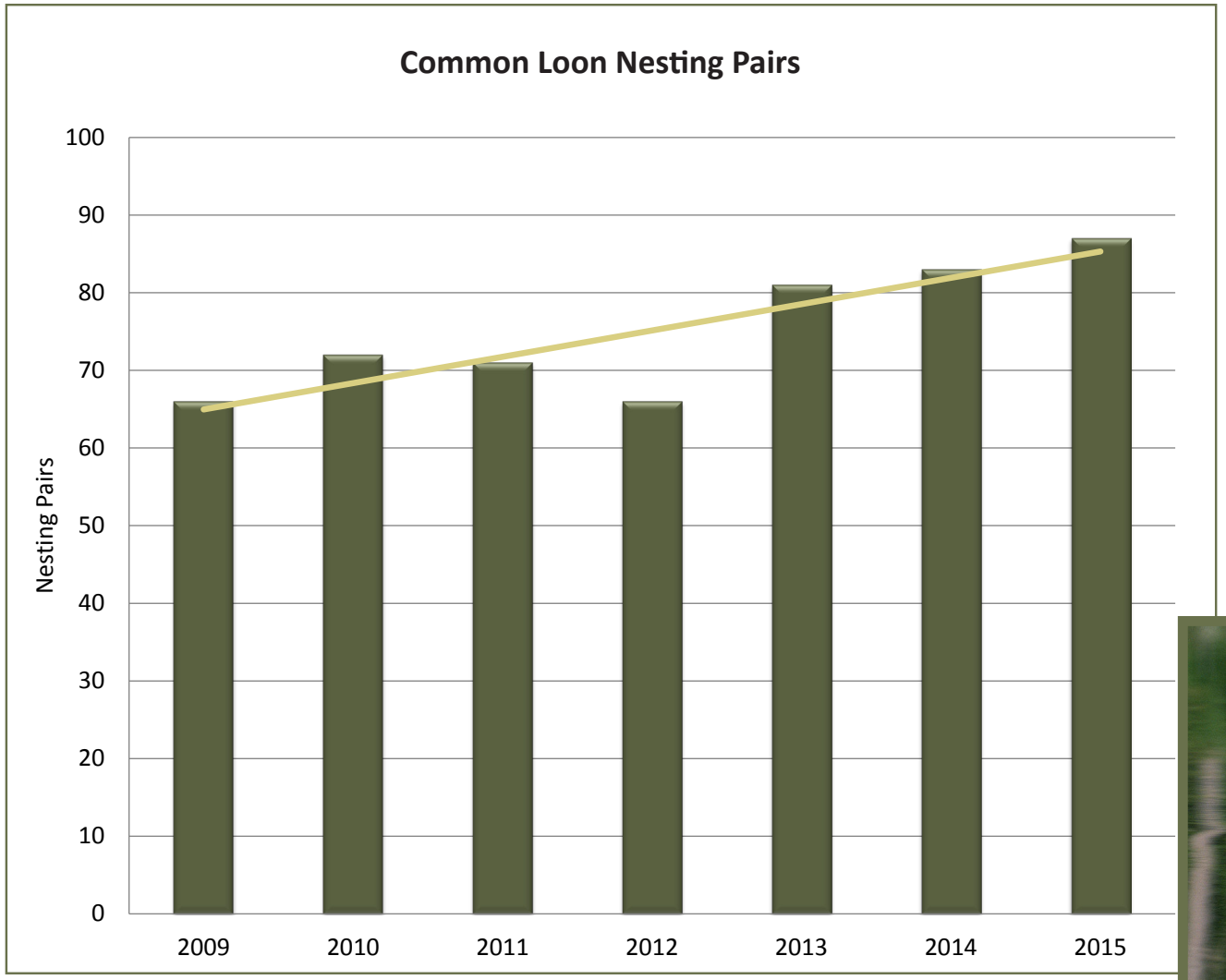
*A solar panel array at the Bald Hill Fish Culture Station is supplementing approximately 75% of the facility's electrical demand.*

## What Vermonters Think

I recognize that the Vermont Fish & Wildlife Department is responsible for managing the state's fish and wildlife resources. **77% YES**

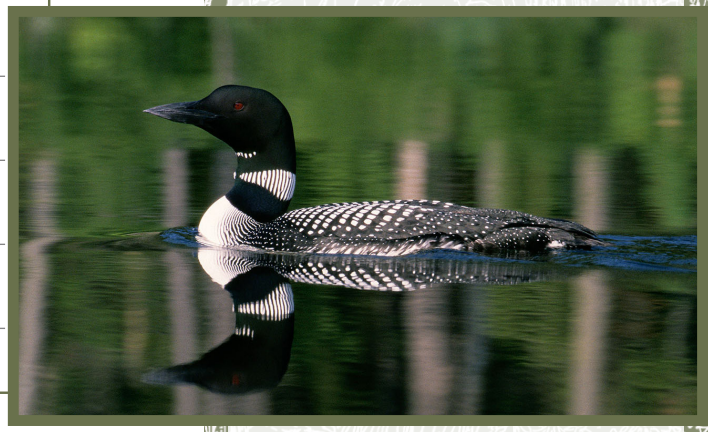
Source: Responsive Management, 2015.

# Vermont's New 10-Year Wildlife Action Plan




## We work strategically to keep common species common, while preventing species on the brink from slipping towards threatened and endangered status.

The Wildlife Action Plan is a 10-year framework that assesses the health of Vermont's wildlife and wild lands, identifies the problems they face, and outlines the actions needed to conserve them for the long term. Some species such as moose, lynx, and marten may be at risk due to climate change whereas others are threatened by habitat fragmentation and loss.



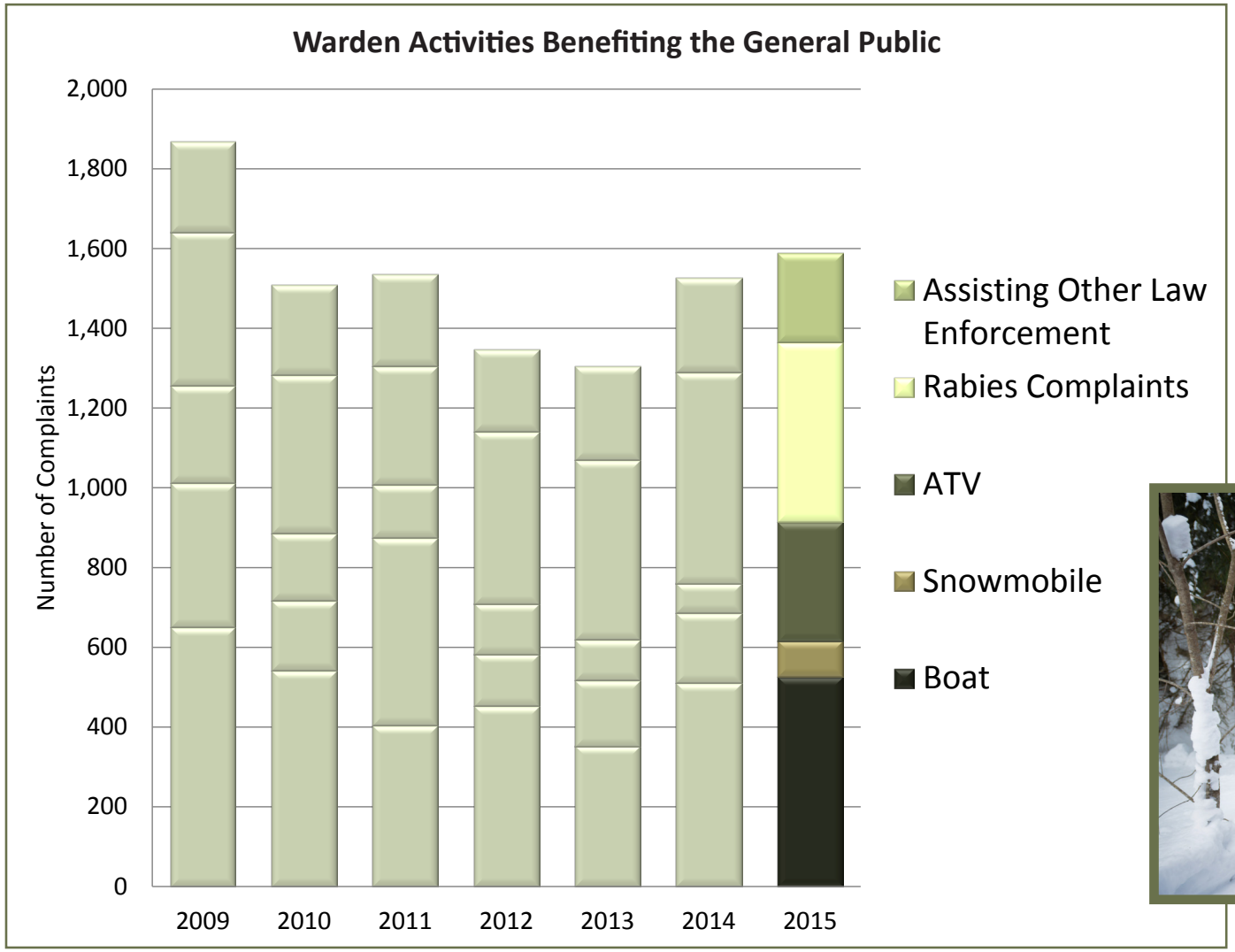
*Vermont's new 10-year Wildlife Action Plan will help recovering species like loons remain off the state's endangered species list.*

## What Vermonters Think

The health of native fish and wildlife populations is important even if I don't get to see them. **98% YES**

Source: Responsive Management, 2015.

# Wardens Serve the General Public




**Wardens apply their broad range of skills and expertise towards providing a wide variety of services that Vermonters rely on.**

This includes responding to rabid and nuisance animals, enforcing boating, ATV, and snowmobiling laws, assisting other law enforcement agencies, and participating in search and rescue operations.

## What Vermonters Think

The department effectively balances the interests of anglers, hunters, conservation groups, and the general public. **76% YES**

Source: Responsive Management, 2015.

# Community-Based Law Enforcement

## A Christmas Gift

After her husband went to prison two weeks before Christmas for violating his parole by shooting a deer out of season, Nicole Sawyer was left to care for two kids on her modest income. On Christmas Eve, Warden Jeff Whipple paid a visit to the Sawyer household with a box full of venison and moose meat he had processed himself. "I couldn't believe it," said Nicole, "he even had venison bratwurst, wrapped, labeled and everything." On Christmas morning, she made venison steak for her family's breakfast. Wardens maintain a list of families in need all over the state.

## Very Special People Ride

Last February, wardens participated in the Woodford SnoBusters Very Special People Ride, giving rides on snowmobiles to children and young adults with physical and mental disabilities. The wardens gave the young riders a fantastic day in the outdoors, in addition to building goodwill with the public.

**Vermont's warden force believes effective law enforcement stems from building trust and credibility with the public through positive interactions and strong individual relationships.**

Wardens handled a total 9,106 incidents in 2015. Of these, 1,128 resulted in tickets for civil offenses and 389 citations for criminal offenses.

## Outreach with K9s

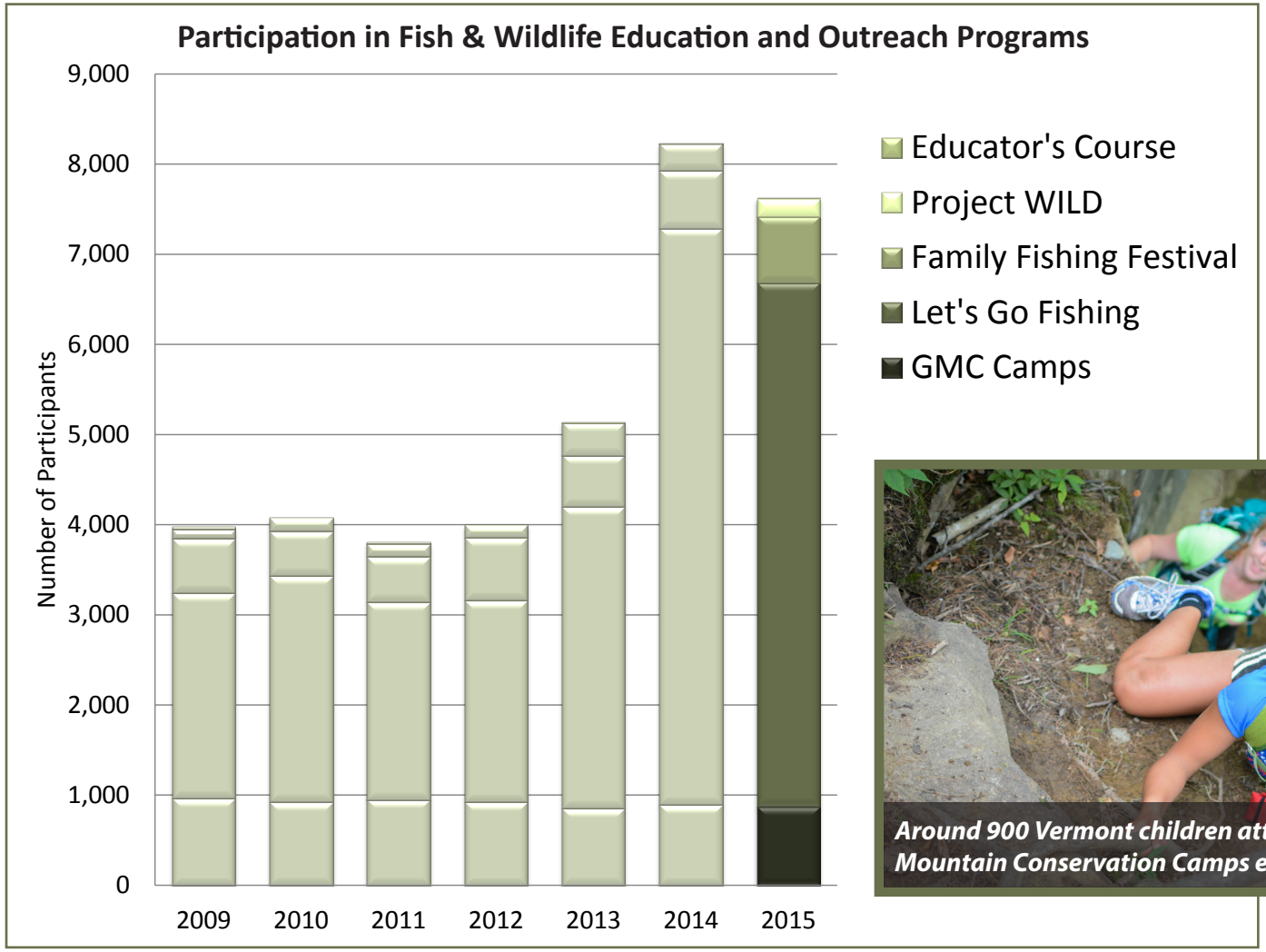
The Vermont wardens support four K9 officers, who routinely give demonstrations to schools, clubs, and at events. The officers find that the dog helps break the ice and allows people to open up to them, resulting in additional tips from the public and an increased level of cooperation among suspects.

## What Vermonters Think

I am *dissatisfied* with the Vermont Fish & Wildlife Department as a government agency. **3% YES**

Source: Responsive Management, 2015.

# Environmental Education and Outreach Programs



*Around 900 Vermont children attend Green Mountain Conservation Camps each summer.*

## The department works to maintain Vermonters' strong connection to the land and cultural values.

The education programs that we offer help strengthen residents' understanding of natural resources and build support for conservation. According to the 2015 Responsive Management survey lead investigator, Vermonters truly are unique in their commitment to conservation.

More than 5,000 Vermonters are now introduced to fishing and the ecology of rivers and lakes through the popular Let's Go Fishing Program. In addition, more than 200 educators attend Project Wild seminars and 900 summer campers learn about the importance of critical habitats in conserving Vermont's wildlife and fish species.

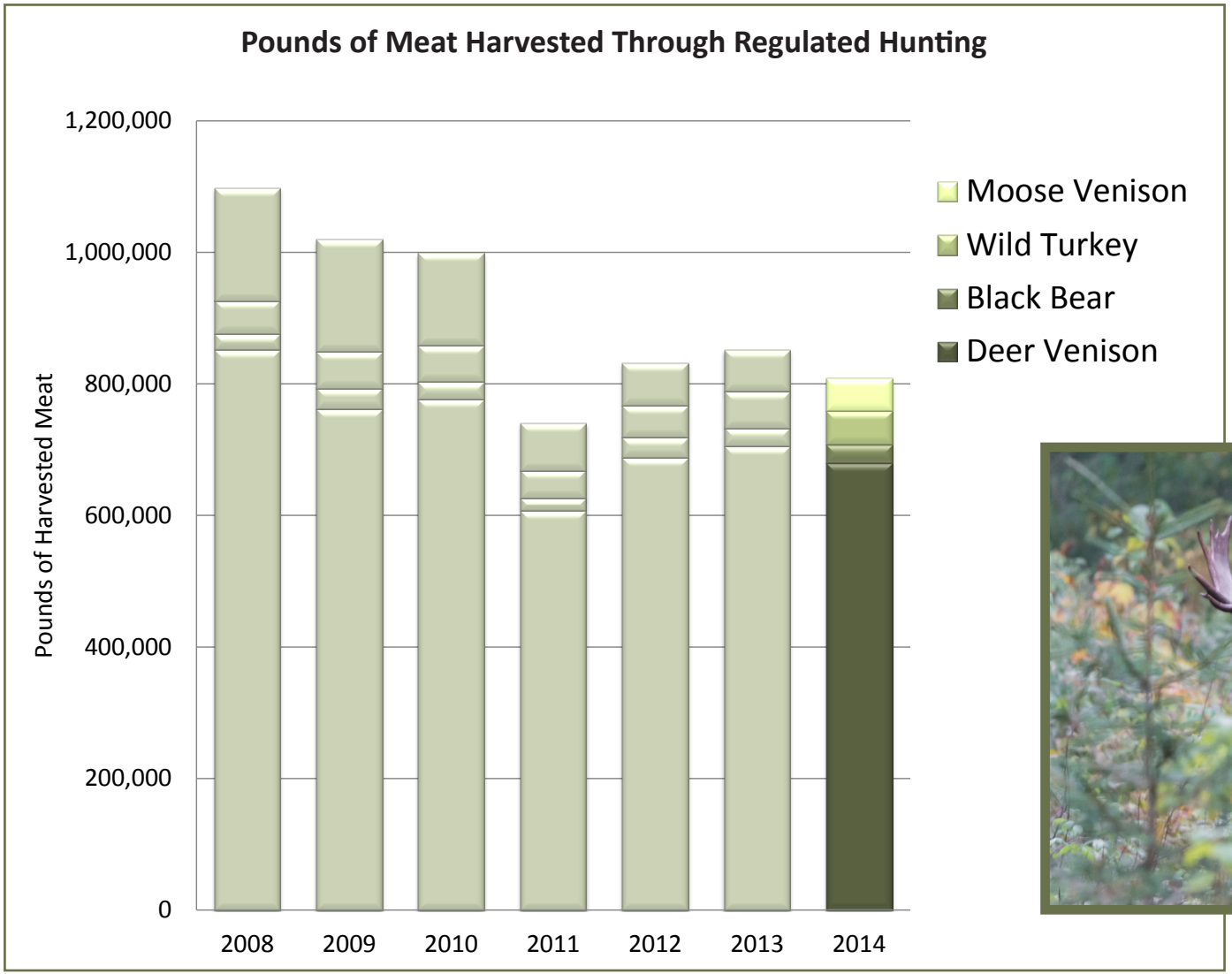
## What Vermonters Think

When I hear the expression "quality of life," the thing that comes to mind for me is the physical environment.

**17% YES** - ***the most common response***

Source: Responsive Management, 2015.

# Meat Harvested Through Hunting




**Hunting and fishing provide Vermonters with food that is free-range, local, organic, sustainable, and affordable.**

As Vermont's 'Farm-to-table' movement continues to increase in popularity, the desire to harvest 'Field-to-table' meat has become an additional motivator for new people to try hunting.

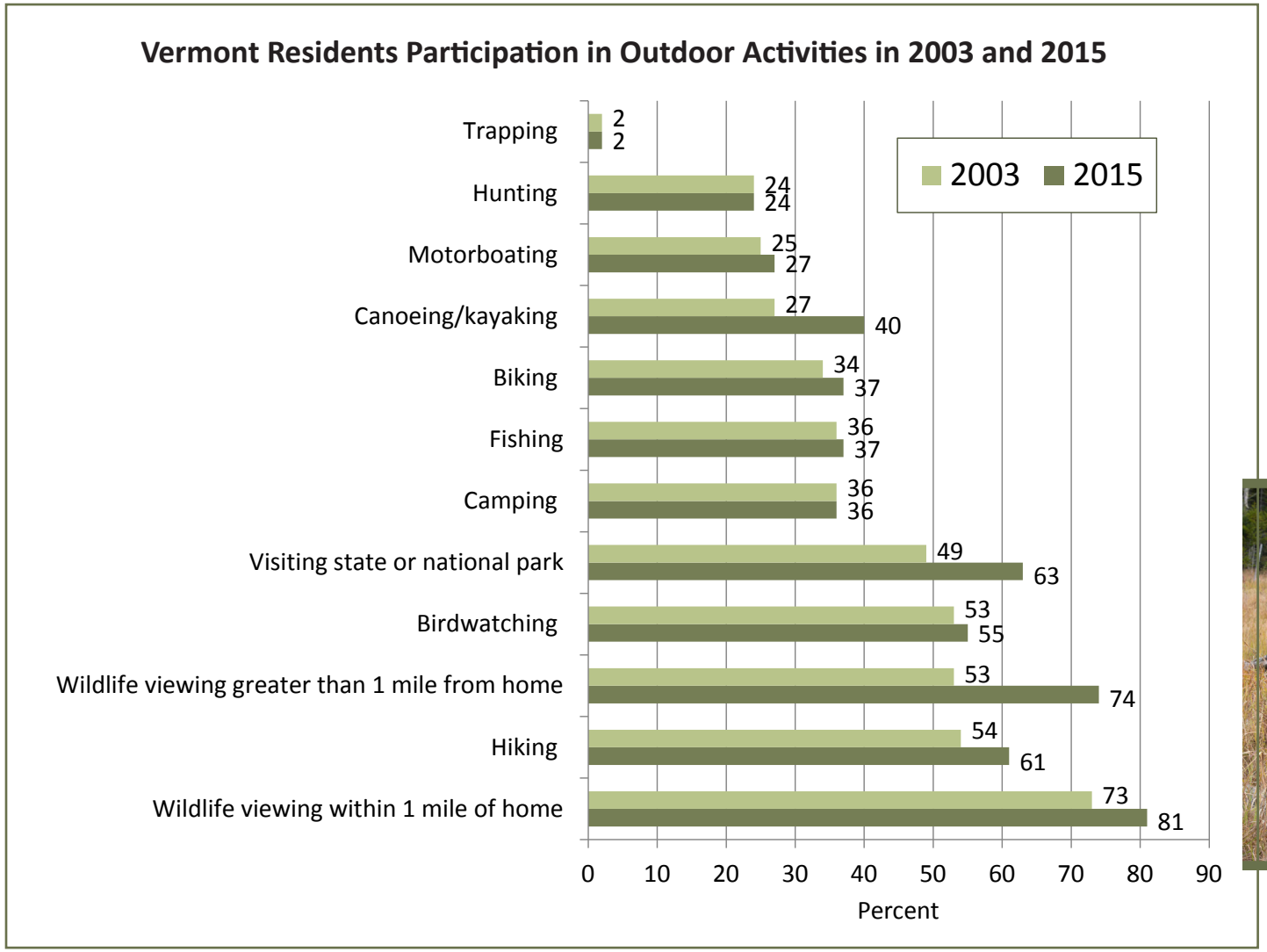
## What Vermonters Think

Hunting and fishing are part of scientific management of healthy fish and wildlife populations. **89% YES**

Source: Responsive Management, 2015.

PERFORMANCE MEASURE: The amount of wild meat, fish and other provisions from wildlife resources annually harvested under regulated seasons shall be maintained at sustainable levels.

# Participation in Outdoor Activities




**Vermonters continue to be enthusiastic wildlife watchers, but they are also becoming more avid hikers, state park visitors, canoeists and kayakers.**

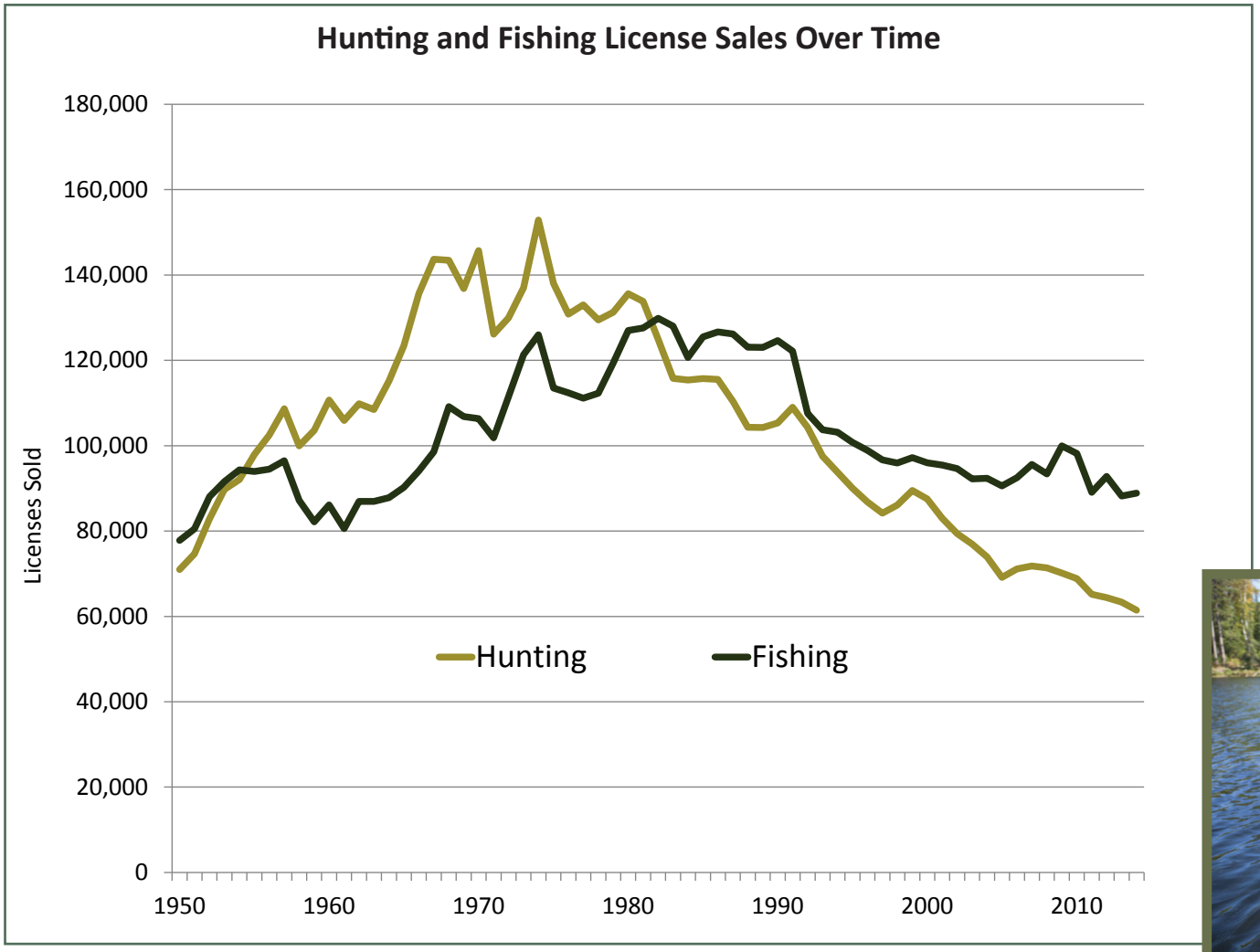
Wildlife management areas provide 135,000 acres of conserved habitat for species as well as public access to incredibly rich natural areas. They also offer opportunities for recreation and the chance see wildlife and experience nature.

## What Vermonters Think

Opportunities for wildlife-related outdoor recreation are very important to me. **91% YES**

Source: Responsive Management, 2015.

# The Decline in License Sales Over 30 Years




**Declining license sales trends threaten the conservation future of the state's natural heritage and the services provided to Vermonters.**

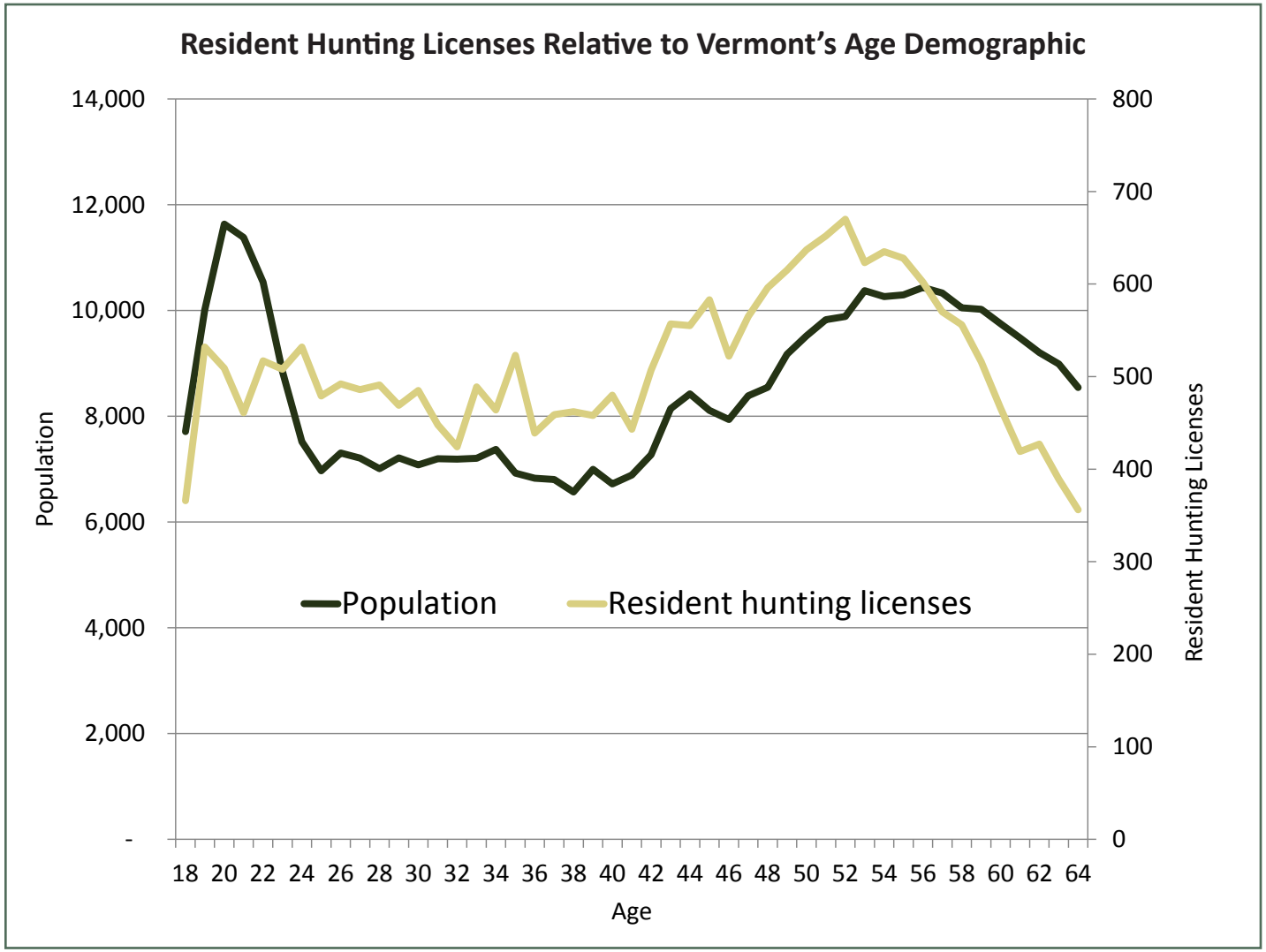
New initiatives in 2015 helped to stabilize and increase fishing license sales, particularly the Reel Fun Fishing in Vermont State Parks. However these increases will not cancel out the age-related declines in hunting participation. To remain financially stable long-term, the department will need to address its funding crisis.

## What Vermonters Think

Among the various options for future funding of the Fish & Wildlife Department, I prefer a one-eighth of 1% increase in the state general sales tax designated for conservation. **61% YES** - ***the most common response***

Source: Responsive Management, 2015.

# License Sales with an Aging Population




## What Vermonters Think

Funding for fish and wildlife conservation programs should be *decreased*. **2% YES**

Source: Responsive Management, 2015.

## Vermont's population is aging, leading to a decline in hunting participation.

This decline in license sales, which parallels the state's demographics, will leave a hole in our budget in the next 5 to 10 years.

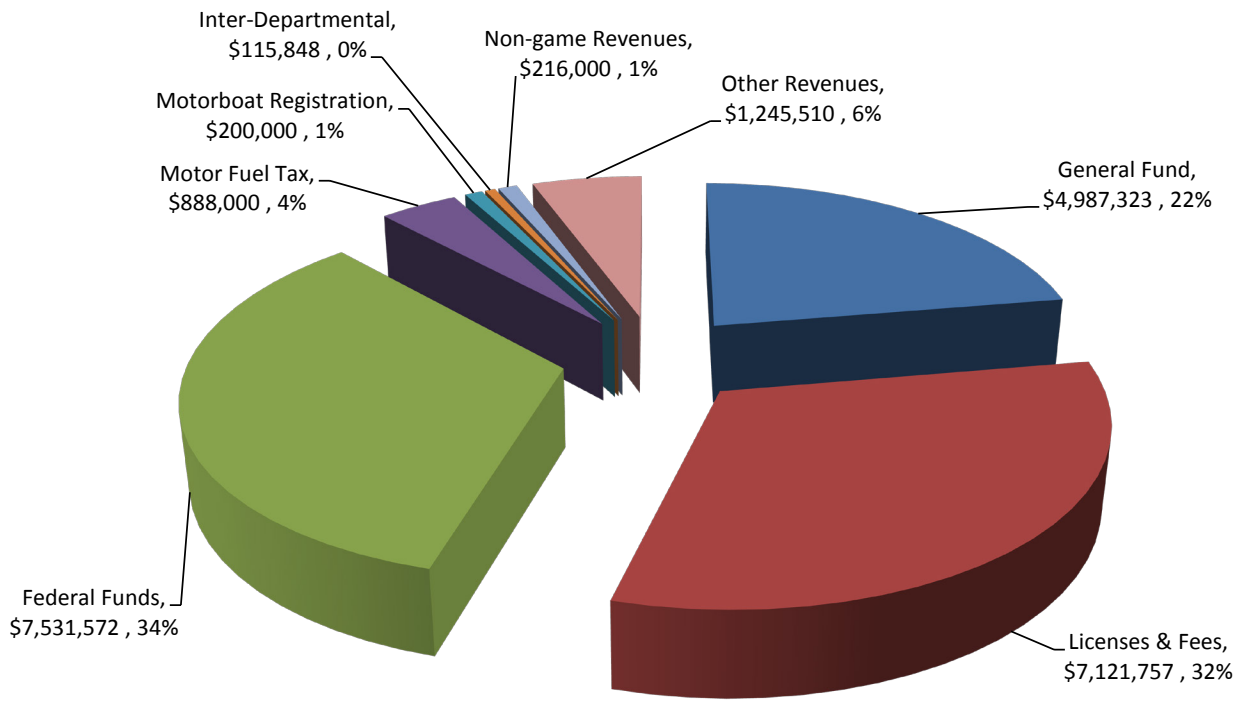
The rate of Vermonters who participate in hunting, fishing and wildlife watching is still the second highest in the nation after Alaska. Our rate of participation has not declined. However, as the baby boomers age, license sales will continue to decline no matter how much effort we put into recruitment.

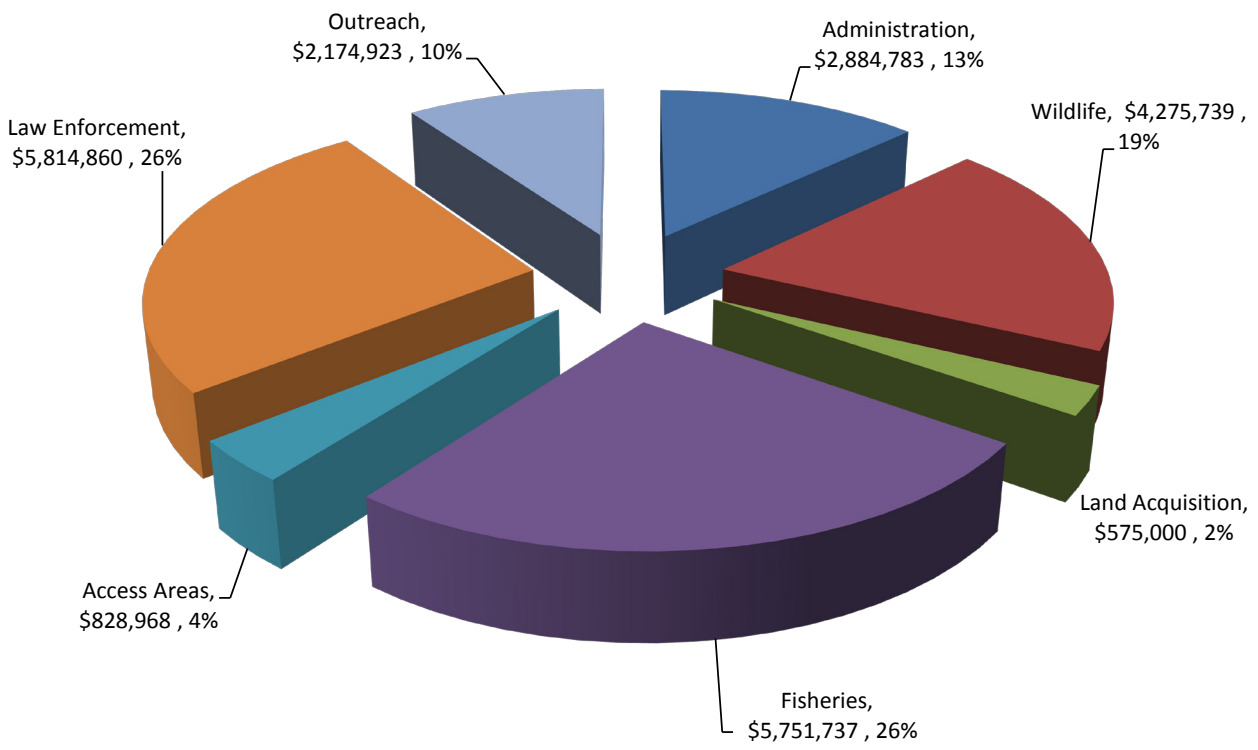
The department offered an array of Getting Started in Hunting seminars and hunter education courses. However, we may have reached a peak in attendance based on declining school-age populations and reliance on hunters and anglers to fund conservation in Vermont is in jeopardy.

# Revenues and Expenditures

# Fish & Wildlife Department
# FY 17 Revenues and Expenditures

## FY17 Estimated Revenues




## FY17 Proposed Expenditures by Program